

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-64. (Cancelled).

Claim 65. (Currently Amended) Apparatus for reducing noise in an area proximate an ear of an observer, comprising:

a transducer arranged to transduce noise sound ~~substantially~~ in said area into a signal;

a measuring device arranged to measure the signal from the transducer; and a sound cancellation device configured to receive information from the measuring device, generate a cancellation sound of approximately an equal intensity and opposite polarity to said noise sound, and transmit said cancellation sound to said area thereby ~~substantially~~ reducing the amount of noise sound audible in said area by said observer; wherein,

the transducer is ~~mounted~~ on the body of the observer;

the measuring device is remote from the transducer;

the transducer wirelessly transmits the signal, representing sound
in the vicinity of the ear canal, to the measuring device;

the wireless transmission of the signal takes the form of light
reflected from the transducer; and

said measurement device is an optical device.

Claim 66. (Previously Presented) The apparatus as claimed in
Claim 65, wherein said transducer includes pressure sensitive paint.

Claim 67. (Previously Presented) The apparatus according to Claim
66, wherein the transducer comprises a pressure sensitive paint applied to the
skin of the observer.

Claim 68. (Previously Presented) The apparatus as claimed in
Claim 65, wherein said transducer comprises human skin.

Claim 69. (Currently Amended) The apparatus according to Claim
[[65,]] 68, wherein said skin comprises a part of the ear of the observer.

Claim 70. (Previously Presented) The apparatus as claimed in
Claim 69, wherein said skin is a part of one of a human pinna, a human concha,
and a human cavum.

Claims 71.-72. (Cancelled)

Claim 73. (Previously Presented) An item of jewelry, for wearing on
or proximate the ear, comprising a transducer according to Claim 65.

Claim 74. (Previously Presented) The item of jewelry, according to
Claim 73, wherein the item of jewelry comprises an earring.

Claim 75. (Currently Amended) The apparatus as claimed in Claim
[[74,]] 65, wherein said optical device is an interferometer.

Claim 76. (Previously Presented) The apparatus as claimed in Claim
75, wherein said interferometer comprises a laser as a light source.

Claim 77. (Previously Presented) The apparatus as claimed in Claim 65, further comprising a filter disposed between said measuring device and said cancellation device, and arranged to pass a range of frequencies, thereby enabling said apparatus to cancel noise sound based on a frequency of said noise.

Claim 78. (Currently Amended) The apparatus as claimed in ~~any~~ of Claim 65, further comprising a tracking device arranged to search for said transducer, to acquire a location of said transducer, and to track said location of said transducer, said tracking device being further arranged to communicate said location of said transducer to said measuring device.

Claim 79. (Previously Presented) The apparatus as claimed in Claim 78, wherein said tracking device is disposed in a headrest.

Claim 80. (Previously Presented) The apparatus as claimed in Claim 78, wherein said tracking device is a video tracking device.

Claim 81. (Previously Presented) The apparatus as claimed in Claim 65, further comprising a further measuring device disposed remote from said area and arranged to measure background noise proximate to said area,

said background noise being communicated to said sound cancellation device to facilitate reducing the amount of noise audible in said area.

Claim 82. (Previously Presented) The apparatus as claimed in Claim 81, wherein said further measuring device is a microphone.

Claim 83. (Currently Amended) A method for reducing noise in an area proximate an ear of an observer, the method comprising the steps of:

transducing noise sound in said area into a signal, using a transducer mounted on the body of the observer;

measuring said signal;

generating a sound of approximately an equal intensity and opposite polarity to said measured sound;

transmitting said generated sound to said area, reducing noise audible in said area; and

wirelessly transmitting the signal from the transducer to a remote measuring device;

wherein the wireless transmission of the signal is achieved by the reflection of light from the transducer, for measurement in an optical device.

Claim 84. (Previously Presented) The method as claimed in Claim 83, wherein said reflection comprises reflection from pressure sensitive paint.

Claim 85. (Previously Presented) The method according to Claim 84, further comprising a step of applying the pressure sensitive paint to the skin of the observer, for use as the transducer.

Claim 86. (Previously Presented) The method as claimed in Claim 83, wherein human skin is used as the transducer.

Claim 87. (Currently Amended) The method according to Claim 83, wherein [[the]] skin of an ear of the observer is used as the transducer.

Claim 88. (Previously Presented) The method as claimed in Claim 87, wherein the skin of one of a human pinna, a human concha; and a human cavum, is used as the transducer.

Claim 89. (Previously Presented) The method as claimed in Claim 83, wherein the light is measured in an interferometer.

Claim 90. (Previously Presented) The method as claimed in Claim 89, wherein a laser is used as a light source for emitting light for reflection by the transducer.

Claim 91. (Cancelled)

Claim 92. (Currently Amended) The method according to Claim [[91,]] 83, wherein the transducer is embedded in an item of jewelry for wearing on the ear of the observer.

Claim 93. (Currently Amended) [[A]] The method as claimed in Claim 83, further comprising filtering between a measuring device and said cancellation device to pass a range of frequencies, thereby enabling said apparatus to cancel noise sound based on a frequency of said noise.

Claim 94. (Currently Amended) ~~Apparatus~~ The method as claimed in Claim 83, further comprising tracking by searching for said transducer, acquiring a location of said transducer, tracking said location of said transducer, and communicating said location of said transducer to said measuring device.

Claim 95. (Currently Amended) The ~~apparatus~~ method as claimed in Claim 94, wherein said tracking is performed by a video tracking device.

Claim 96. (Previously Presented) A method as claimed in Claim 83, comprising the further step of measuring background sound remote to said area, and using said measurement of background sound to facilitate the reducing the amount of noise audible in said area.